

Aug 23rd, 1:15 PM - 2:30 PM

Information Literacy/Information Architecture: Lessons Learned From a Card Sort Exercise

Virginia Feher
Georgia Regents University

Kim Mears
Georgia Regents University

Autumn Johnson
Georgia Regents University

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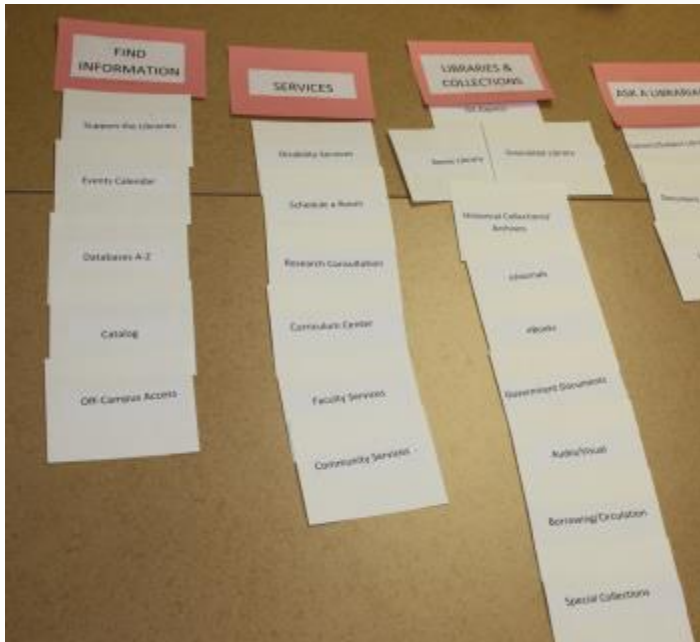
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Feher, Virginia; Mears, Kim; and Johnson, Autumn, "Information Literacy/Information Architecture: Lessons Learned From a Card Sort Exercise" (2013). *Georgia International Conference on Information Literacy*. 9.
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Information Literacy/Information Architecture: Lessons Learned From a Card Sort Exercise



Virginia Feher, Kim Mears, Autumn Johnson
Georgia Regents University

Augusta State and Georgia Health Sciences (MCG) Universities announce plan to consolidate



Consolidation Moves Forward

JANUARY 12, 2012

University System of Georgia (USG) Board of Regents approve merger of Augusta State and Georgia Health Sciences University

December 11, 2012

SACS approves consolidation

Fall 2013

Inaugural class of GRU enrolled

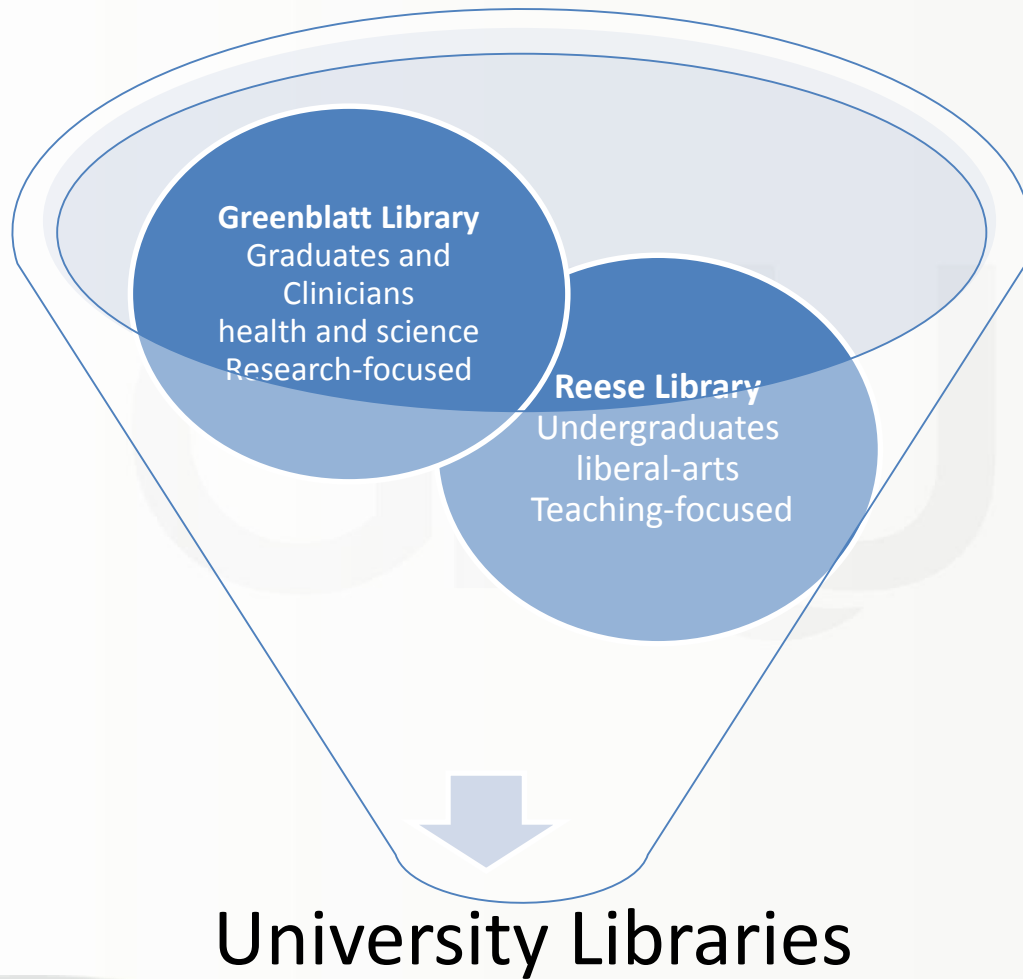
Summer- Fall 2012

Library Work Team submit regular updates to University Consolidation Working Group. Updates are made available to public

January 8, 2013

Consolidation takes effect after approval from USG Board of Regents

Consolidation of Libraries



Consolidated Libraries Sub-Committee Formed

“to consolidate the Reese and Greenblatt Libraries websites into one Libraries website to best meet the needs of the students, faculty, clinicians, researchers and staff of New U by mid-January 2013 when SACS approves consolidation”

Consolidated Libraries Sub-Committee Formed



Librarian
Library Systems
Greenblatt Library



Librarian
Research and Education
Greenblatt Library



Staff / Librarian
Research and Education
Greenblatt Library



Librarian
Reference and Education
Reese Library



Staff
Library Systems
Reese Library

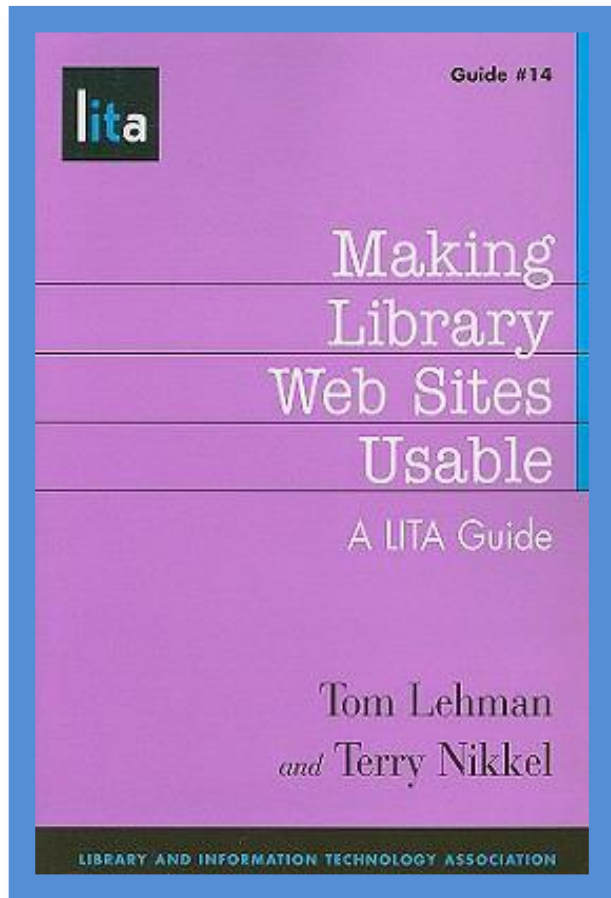


Librarian
Reference and Education
Reese Library

Early Research and Review



Early Research and Review



Lehman, T., & Nikkel, T. (2008). *Making library Web sites usable: A LITA guide*. New York: Neal-Schuman Publishers.

Cockrell, B., & Cockrell and Elaine A. Jayne. (2002). How do I find an article? Insights from a web usability study. *Journal of Academic Librarianship*, 28, 122-132.

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Smith, S. S., & American Library Association. (2010). *Web-based instruction: A guide for libraries* (3rd ed.). Chicago: American Library Association.

Tolliver, R. L., Carter, D. S., Chapman, S. E., Edwards, P. M., Fisher, J. E., Haines, A. L., & ... Price, R. M. (2005). Website redesign and testing with a usability consultant: lessons learned. *OCLC Systems & Services*, 21(3), 156-166.

Early Research and Review

Reese Library

Phone: (706) 737-1748

- Books
- Articles
- Research Guides
- Google Scholar
- Search GRU

Find Information

- Books & Media
- Articles
- E-Journals By Title
- Special Collections Finding Aids
- Government Information
- Research Guides (LibGuides)

Get Help

- How to Get the GALILEO Password
- Staff Directory
- Ask a Librarian
- Request a Research Appointment

Get Services

- Log on to Your GIL Account
- Interlibrary Loan Instructions
- Interlibrary Loan Login Page
- Library Policies
- Schedule Class Instruction


About Us

- Mission Statement
- Departments
- Calendar
- What's New at Reese Library
- Tell Us How We Are Doing!

Normal Library Hours:


- Mon - Th: 7:30 a.m. - 10:30 p.m.
- Fri: 7:30 a.m. - 5:00 p.m.
- Sat: 9:00 a.m. - 5:00 p.m.
- Sun: 1:30 p.m. - 8:30 p.m.

Enter your search term to find books and media.




All Fields ▾

Search Tips:
Use quotes to search for phrases (for example: "Civil War"). Use an * for wildcard searches (for example: biochem* will return biochemistry and biochemical.) AND, OR and NOT can be used for Boolean logic (for example: ((biomedical AND engineering) NOT nuclear)) - Boolean operators (AND, OR, NOT) must be ALL CAPS
GIL | GIL-Find | GIL Universal Catalog | OCLC WorldCat | Library of Congress




First view of the library from the parking lot

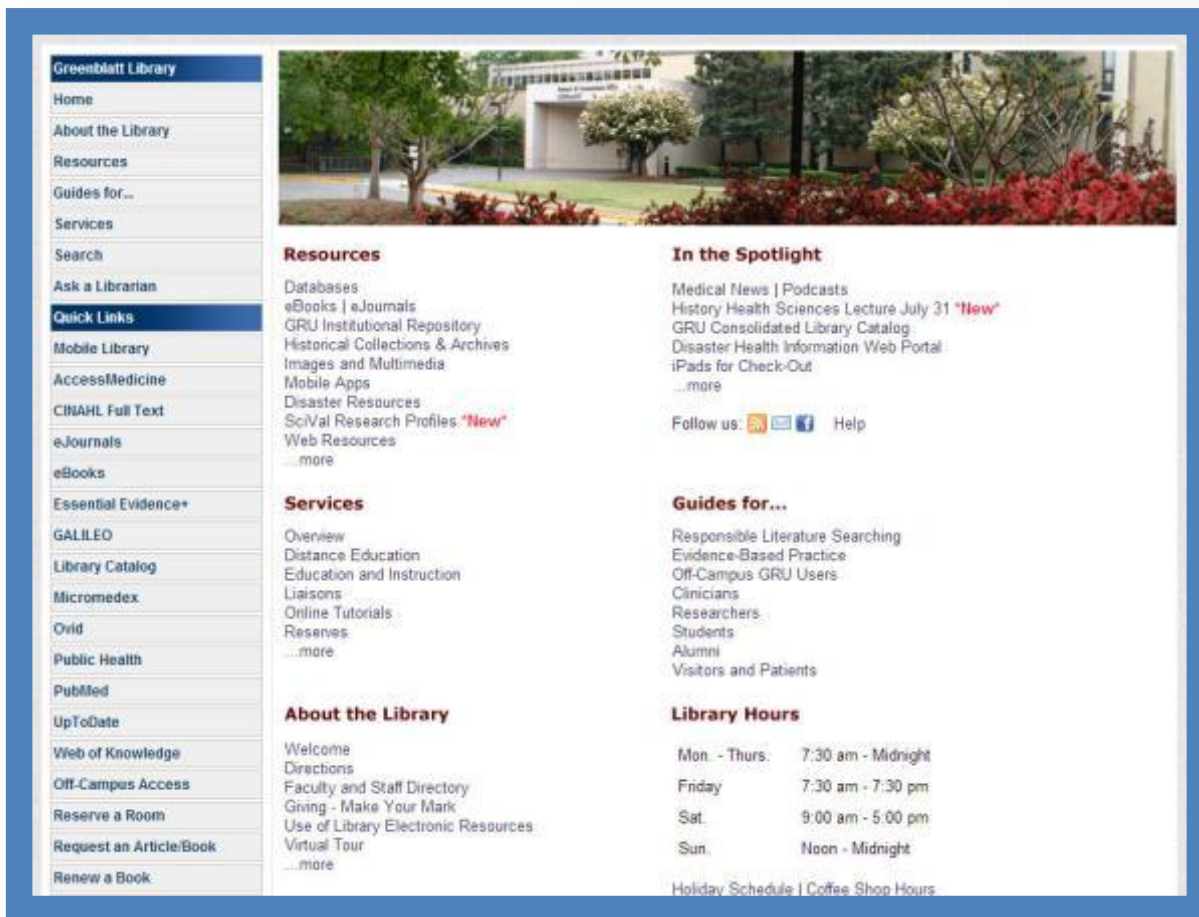
[Click here to access the old site.](#)



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Early Research and Review



The screenshot displays the Greenblatt Library website. On the left is a vertical navigation menu with links such as Home, About the Library, Resources, Guides for..., Services, Search, Ask a Librarian, Quick Links, Mobile Library, AccessMedicine, CINAHL Full Text, eJournals, eBooks, Essential Evidence+, GALILEO, Library Catalog, Micromedex, Ovid, Public Health, PubMed, UpToDate, Web of Knowledge, Off-Campus Access, Reserve a Room, Request an Article/Book, and Renew a Book. The main content area features a large banner image of a library building. Below the banner are four columns of links: Resources (including Databases, eBooks, eJournals, GRU Institutional Repository, Historical Collections & Archives, Images and Multimedia, Mobile Apps, Disaster Resources, SciVal Research Profiles, and Web Resources), In the Spotlight (featuring Medical News | Podcasts, History Health Sciences Lecture July 31, GRU Consolidated Library Catalog, Disaster Health Information Web Portal, iPads for Check-Out, and a 'New' tag), Services (including Overview, Distance Education, Education and Instruction, Liaisons, Online Tutorials, Reserves, and a 'New' tag), and Guides for... (listing Responsible Literature Searching, Evidence-Based Practice, Off-Campus GRU Users, Clinicians, Researchers, Students, Alumni, and Visitors and Patients). At the bottom right, there is a section for Library Hours with a table showing hours for Monday through Sunday, and links for Holiday Schedule and Coffee Shop Hours.

Greenblatt Library

Home
About the Library
Resources
Guides for...
Services
Search
Ask a Librarian

Quick Links:




Mobile Library
AccessMedicine
CINAHL Full Text
eJournals
eBooks
Essential Evidence+
GALILEO
Library Catalog
Micromedex
Ovid
Public Health
PubMed
UpToDate
Web of Knowledge
Off-Campus Access
Reserve a Room
Request an Article/Book
Renew a Book

Resources

Databases
eBooks | eJournals
GRU Institutional Repository
Historical Collections & Archives
Images and Multimedia
Mobile Apps
Disaster Resources
SciVal Research Profiles **"New"**
Web Resources
...more

In the Spotlight

Medical News | Podcasts
History Health Sciences Lecture July 31 **"New"**
GRU Consolidated Library Catalog
Disaster Health Information Web Portal
iPads for Check-Out
...more

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Education and Instruction
Liaisons
Online Tutorials
Reserves
...more

Guides for...

Responsible Literature Searching
Evidence-Based Practice
Off-Campus GRU Users
Clinicians
Researchers
Students
Alumni
Visitors and Patients

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Welcome
Directions
Faculty and Staff Directory
Giving - Make Your Mark
Use of Library Electronic Resources
Virtual Tour
...more

Library Hours

Mon. - Thurs.	7:30 am - Midnight
Friday	7:30 am - 7:30 pm
Sat.	9:00 am - 5:00 pm
Sun.	Noon - Midnight

[Holiday Schedule](#) | [Coffee Shop Hours](#)

Gaining User Perspective: Survey



“It is too complicated navigating through, it should be more like common sense”

“lack of visual appeal”

“too many links”

“cluttered”

“(needs) better link to news and events”

Gaining User Perspective: Survey



ASU users indicated that GALILEO, GIL-Find, and eJournals were the most important

v.s.

GHSU users indicate eJournals list and Database list most important.

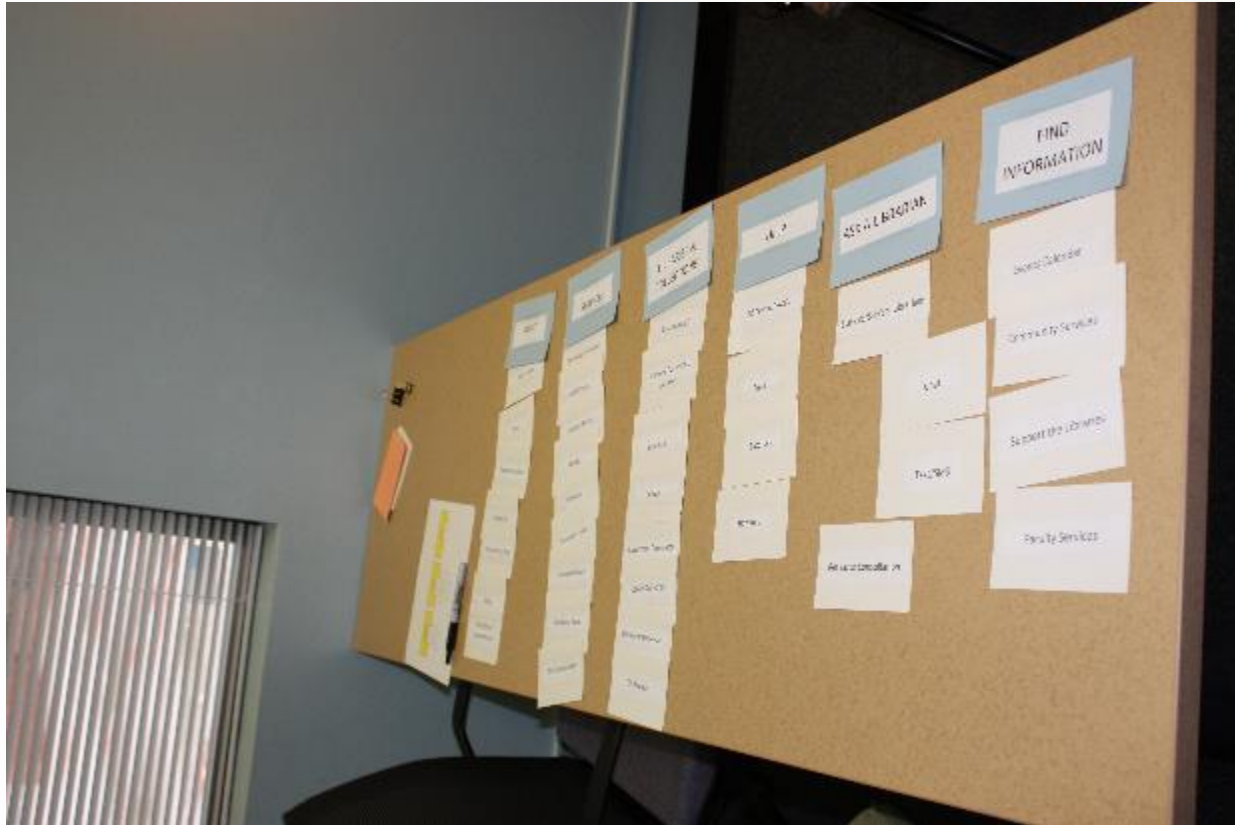
Early Research and Review



Gaining User Perspective: Next Steps

- ~~• Sub-Committee formed~~
- ~~• Committee review of professional literature and aspirational sites~~
- ~~• Committee review of existing websites~~
- ~~• Gather user perspective~~
- ~~• Horizontal navigation bar solution~~
- Card-sort exercise

The Card Sort



Overview

Type of Card Sort

- Closed Cart Sort

Materials

- Script
- Index Cards
- Sign in Sheet
- Incentives
- Camera
- Notepad

Setting

- Reese
 - Study Rooms
- Greenblatt
 - Lobby of the Health Sciences Building
 - Library Study Room

Script & Instructions

- Script
- Provided example
- Follow-up Questions

Thank you for agreeing to participate. Please sign in.

I will now read aloud a series of instructions:

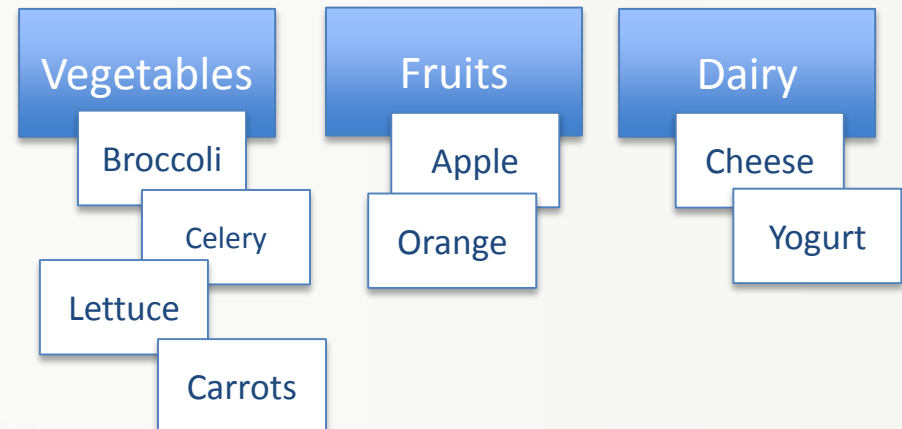
Welcome! Greenblatt Library is in the process of redesigning the library website so that it is more useful to patrons. Today we will be conducting a card-sorting exercise in order to gain some understanding of how users would organize information.

Your task will be to sort a variety of library resources and services into predetermined categories.

Resources and services will be written on small, white cards. *Hold up white cards*

Categories will be written on the larger, yellow cards. *Point towards yellow cards that are taped to table.*

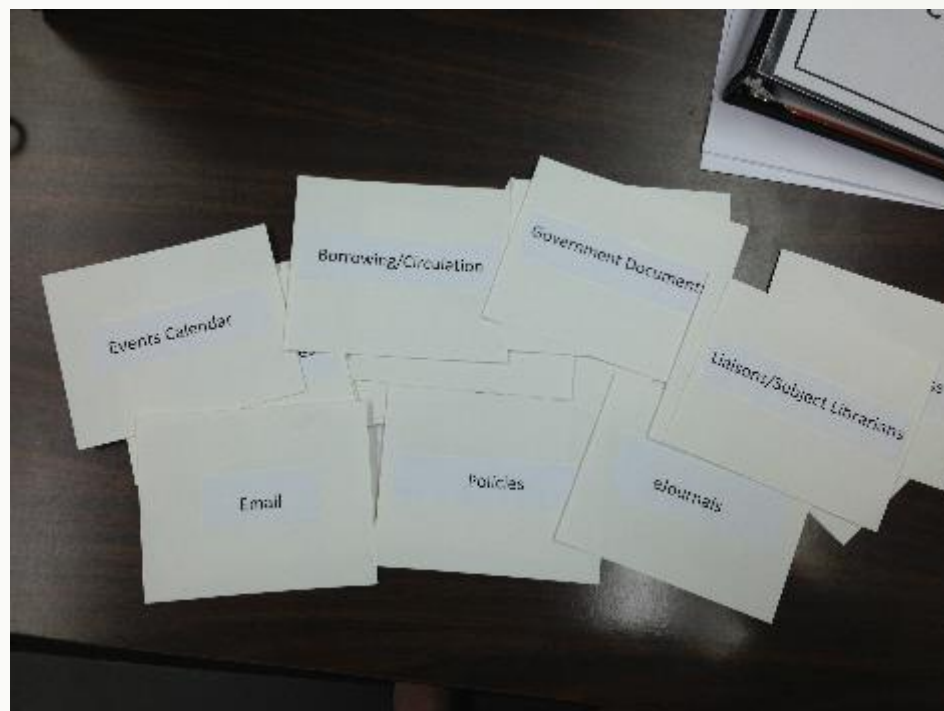
We ask that you take each of the white cards and place them into groups representing categories of information that make sense to you. Take your time and analyze the term that appears on each white card. Sort the white card into one of the 6 categories by laying the white card below the corresponding category



Categories



Resources & Services (Terms)



How did we find participants?

THIS ROOM IS RESERVED....

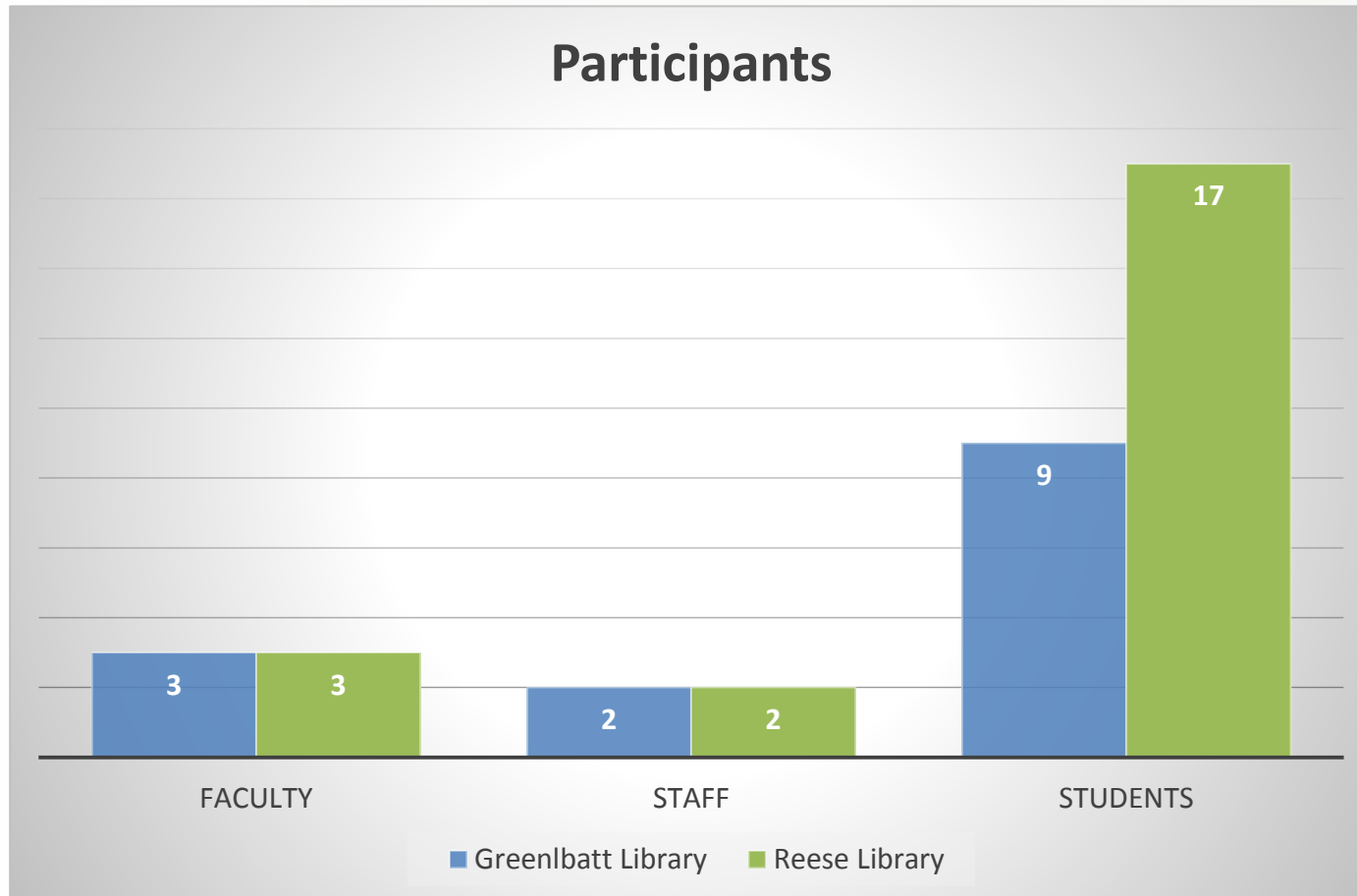
FOR A WEBSITE IMPROVEMENT ACTIVITY



**DO YOU HAVE AN OPINION ABOUT
THE LIBRARY WEBSITE? JOIN US
TODAY FROM 11:00 AM - 1:00 PM.**

- Flyers
- Snacks
- Walk-ins
- Liaisons/embedded librarians

Results: Participants

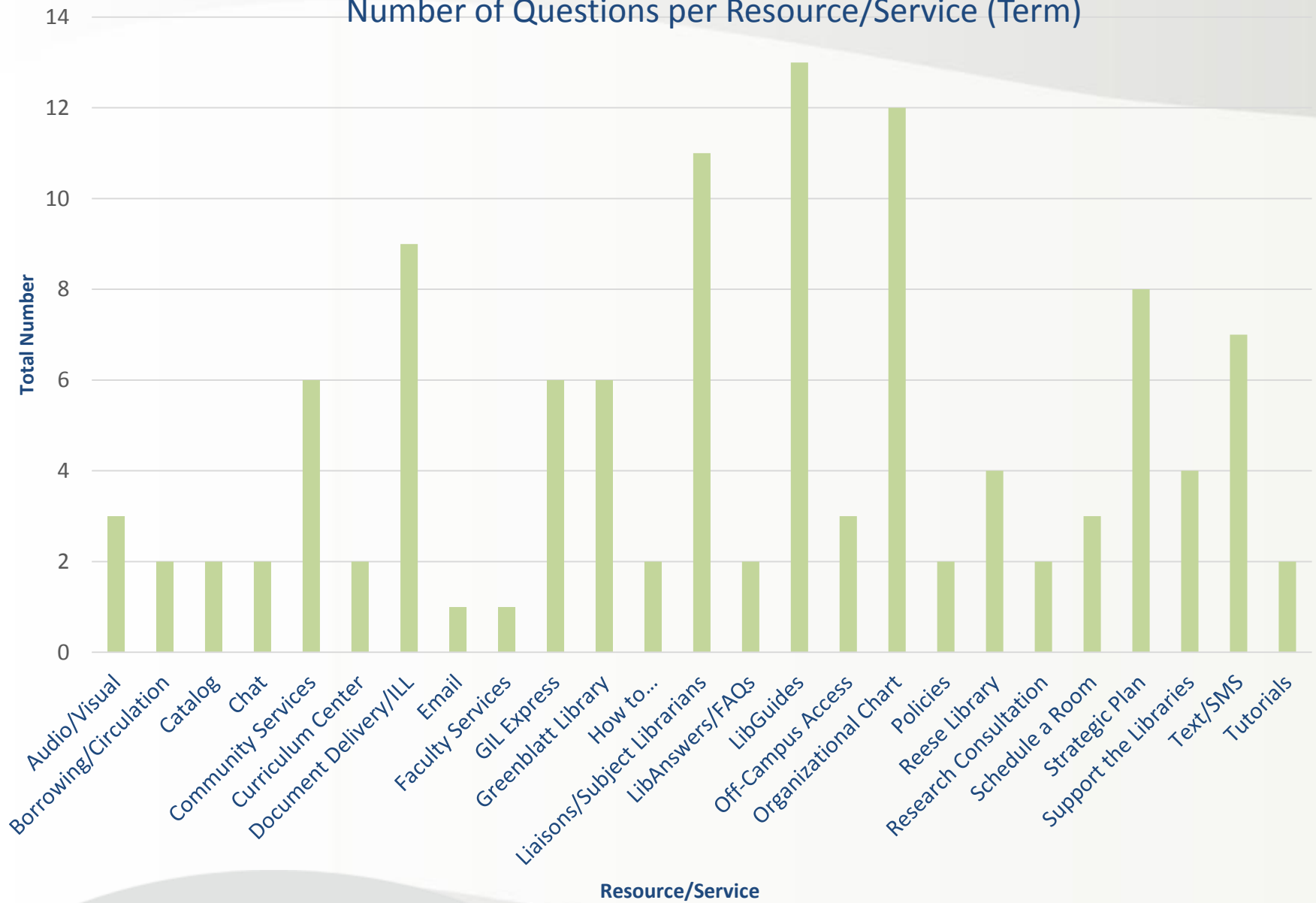


Results: Compiling Data

HELP	ABOUT	FIND INFORMATION	SERVICES	LIBRARIES & COLLECTIONS
HOW TO...	ORGANIZATIONAL CHART	CATALOG	COMMUNITY SERVICES	REESE LIBRARY
LIBANSWERS/FAQS	DIRECTIONS/FLOOR PLAN	DATABASES A-Z	FACULTY SERVICES	SPECIAL COLLECTIONS
TUTORIALS	PHONE	GIL EXPRESS	BORROWING/CIRCULATION	CURRICULUM CENTER
ASK A LIBRIARN	EMAIL	GOVERNMENT DOCUMENTS	DOCUMENT DELIVERY/ILL	EJOURNALS
CHAT	STAFF DIRECTORY/DEPARTMENT LIST	LIBGUIDES	AUDIO/VISUAL	EBOOKS
TEXT/SMS	POLICIES	RESEARCH CONSULTATION	SCHEDULE A ROOM	HISTORICAL COLLECTIONS/ARCHIVES
	EVENTS CALENDAR		OFF CAMPUS ACCESS	GREENBLATT LIBRARIES
	SUPPORT THE LIBRARIES			
	STRATEGIC PLAN			

Terms which needed clarification	User Remarks
LIAISONS/SUBJECT LIBRARIANS SMS STRATEGIC PLAN and ORGANIZATIONAL CHART not specific enough – thought org chart was about floor plans.	<ul style="list-style-type: none"> I would move text/sms to “Help” and combine it with chat, making it one card instead of two. I have absolutely no idea what to do with liaisons/subject librarians. I would not have both “Help” and “Ask a Librarian” – Instead use “Help” then have subgroups, such as “Ask a Librarian” then chat, etc. under that. To me ask a librarian means that you have questions about the library. Change “find information” to “research” or “research online.”
	Tester Remarks <ul style="list-style-type: none"> Near the end subject moved items to “Find Information,” which seemed to be the most confusing header. Would ORDER BY IMPORTANCE.

Number of Questions per Resource/Service (Term)



Find Resources	Services	Get Help	Libraries & Collections	About Us	Contact Us
Catalog	Borrowing & Renewal	LibAnswers	Curriculum Center	Floor Plans	
eBooks	For Community Patrons	LibGuides	Government Information	Give to the Libraries	
eJournals	For Faculty	Off-Campus Access	Greenblatt Library	Maps & Directions	
GALILEO	For Patrons with Disabilities	Research Consultation	Historical Collections & Archives	Organizational Chart	
Health Sciences Databases	GIL Express	Tutorials	Reese Library	Policies	
	Interlibrary Loan		Special Collections	Staff Directory	
				Strategic Plan	

Lessons Learned



Photo credit: Creative Commons

“There are often unforeseen results, though, depending on the perceptions and experience of the users” (Brucker, 2010, p. 42)

LESSON #1

archives citation bibliography boolean operators catalog circulation interlibrary loan database liaison subject specialist government documents course reserves reference edition ezproxy endnote ejournals microforms primary source organizational chart strategic plan GALILEO GIL universal catalog borrowing renewing my library account institutional repository research consultation repository curriculum materials special collections learning center citation style guides data services patrons users discharged call number stacks OPAC digital information literacy embedded librarian resources collections users library instruction scholarly commons LibGuides scholarly voyager serials bound volumes document delivery content management index patrons OCLC worldcat

Library Jargon

“Some of these cards, when taken out of the context of the Web site, may convey little meaning to users” (Brucker, 2010, p. 43).

LESSON #2



CREATING CONTEXT



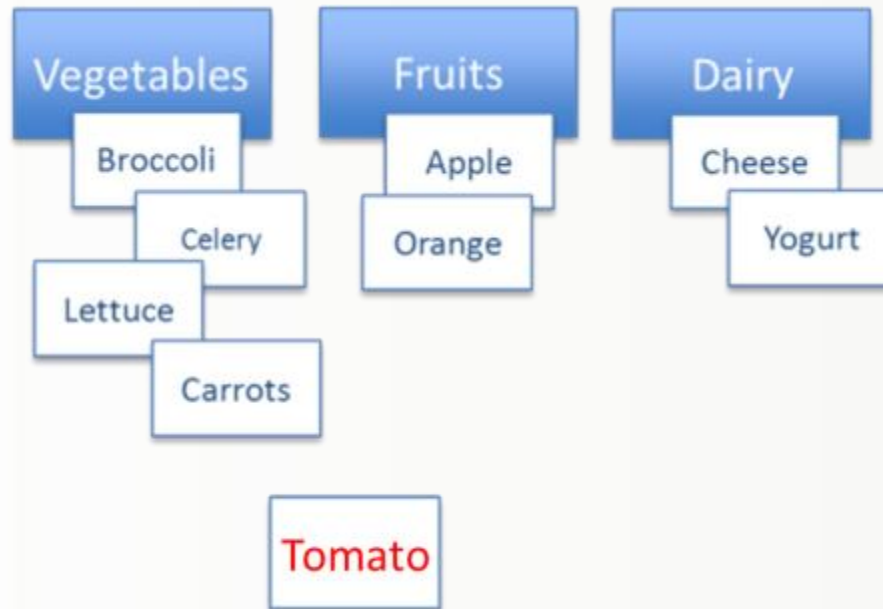
Photo credit: Charles Grier

Closed card sort: “...there is a real danger of skewing the results, guiding users into categories that might not actually make any sense to them, or categories they never would have created on their own” (Brucker, 2010, p. 43).

ite” (Brucker, 2010, pp. 47-



LESSON #3



INTERPRETING THE DATA

- Qualitative versus quantitative.
- Observational data (take good notes).
- Keep track of terms that confuse users.
- Follow up questions and discussion.
- Different users have different needs (faculty/student/staff).
- Choose your software before you plan and perform the sort.

- “Dedicated statistical software could be used to uncover patterns in the data” (Brucker, 2010, p. 49).
 - Statistical cluster analysis (XLSTAT)
 - http://www.boxesandarrows.com/files/banda/card_sorting_a_definitive_guide/Card_Sort_Analysis_Tmpl.xls (enhances observational data; does not provide robust statistical data)

No matter how much you plan, there will be unforeseen results.



LESSON #4



Multiple Stakeholders

Find Resources	Services	Get Help	Libraries & Collections	About Us	Contact Us
Catalog (GIL)	For Students	A-Z Index	Greenblatt Library (Health Sciences)	Floor Plans	
eBooks	For Faculty & Staff	Ask Us!	Reese Library (Summerville)	Give to the Libraries	
eJournals	For Clinicians	Liaison/Subject Librarians	Curriculum Center	Maps & Directions	
GALILEO Databases	For Community Patrons	LibGuides	Government Information	Organizational Chart	
Health Sciences Databases	For Patrons with Disabilities	Off-Campus Access	Historical Collections (Greenblatt)	Policies	
Mobile Resources	Borrowing & Renewal	Research Consultation	Special Collections (Reese)	Staff Directory	
	GIL Express	Tutorials		Strategic Plan	
	Interlibrary Loan				

Find Resources	Services	Get Help	Libraries & Collections	About Us	Contact Us
GALILEO Databases	For Students	Ask Us!	Greenblatt Library (Health Sciences)	Maps & Directions	
Health Sciences Databases	For Faculty & Staff	Liaison/Subject Librarians	Reese Library (Summerville)	Floor Plans	
eJournals	For Clinicians	LibGuides	Government Information	Staff Directory	
Catalog (GIL)	For Community Patrons	Library Instruction	Historical Collections (Health Sciences)	Organizational Chart	
eBooks	For Patrons with Disabilities	Off-Campus Access	Special Collections (Reese)	Policies	
Mobile Resources	Borrowing & Renewing	Research Consultation	Curriculum Center	Strategic Plan	
	GIL Express	Site Index		Give to the Libraries	
	Interlibrary Loan (ILLiad)	Tutorials			

Find Resources	Services	Get Help	Libraries & Collections	About Us	Contact Us
Databases A-Z	Students	Ask Us!	Greenblatt Library (Health Sciences)	Maps & Directions	
eJournals	Faculty & Staff	Liaison/Subject Librarians	Reese Library (Summerville)	Policies	
Health Sciences eBooks	Clinicians	Research Consultation	Government Information	Organizational Chart	
Catalog (GIL)	Community Users	LibGuides	Historical Collections & Archives (Health Sciences)	Staff Directory	
GALILEO	Users with Disabilities	Library Instruction	Special Collections (Summerville)	Strategic Plan	
	Borrowing & Renewing	Tutorials	Scholarly Commons	Give to the Libraries	
	Interlibrary Loan	Off-Campus Access	Curriculum Center		
		A-Z Index			

Rewind



Photo credit: Charles Grier

What we Would do Different

- Practice. Practice. Practice.
- Have a plan for analyzing data.
- Tell participants to go with first reaction and don't overthink.
- Don't provide category headings (ask participants to suggest heading names).
- Let them duplicate terms in different categories.
- Have definitions ready for each term (put on back of index card using natural language).

“...observational data that might be more useful than any statistical results” (Brucker, 2010, p. 51).

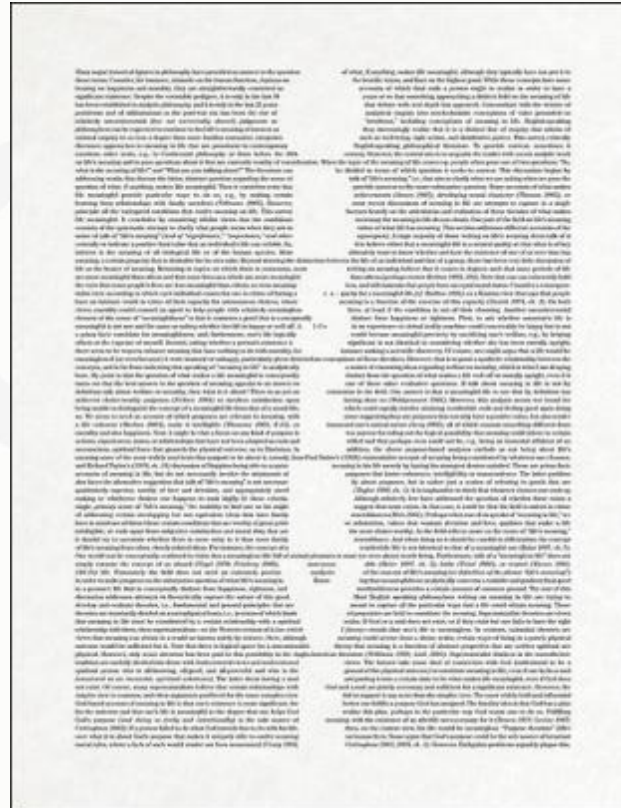
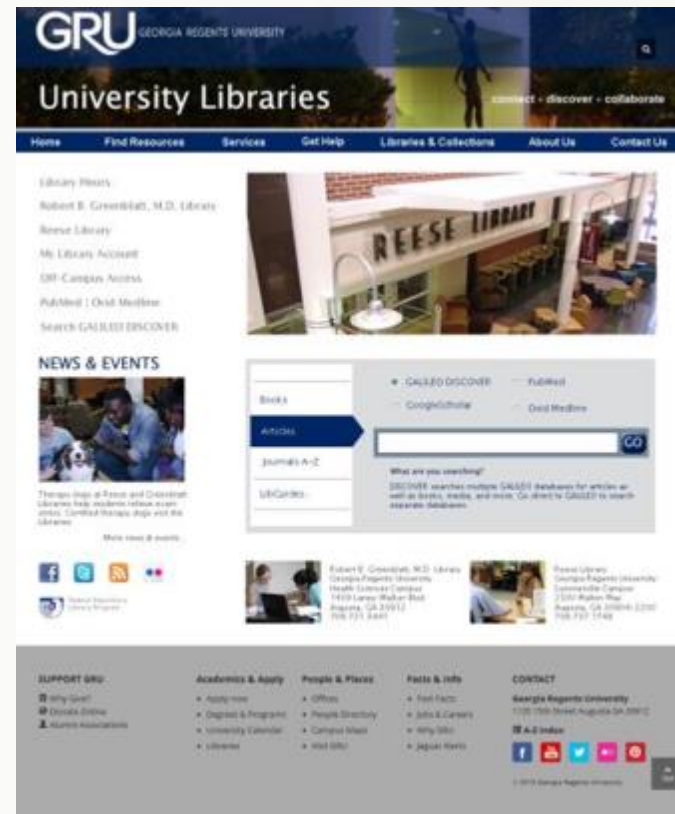


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Navigational Bar in Context





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- OFF-CAMPUS ACCESS
- PUBMED | OVID MEDLINE
- SEARCH: GALILEO DISCOVER

NEWS & EVENTS



Therapy dogs at Reese and Greenblatt Libraries help students relieve exam stress. Certified therapy dogs visit the Libraries.



BOOKS

ARTICLES JOURNALS A-Z LIBRARIES

DISCOVER searches multiple GALILEO databases for articles as well as books, media, and more. Go ahead to GALILEO to search separate databases.

- ☒ GALILEO DISCOVER
- ☐ PubMed
- ☐ Ovid Medline
- ☐ Ovid Medline

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BOOKS

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ARTICLES

JOURNALS & Z

LINGUISTICS

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 ☐ Ovid Medicine

NEWS & EVENTS

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[GIL](#) | [GIL Find](#) | [GIL Universal Catalog](#) | [OCLC WorldCat](#) | [Library of Congress](#)

NEWS & EVENTS

Discover GRU Libraries and more at the GRU EXPO!

A Redesigned New Georgia Encyclopedia

Online Access to the DSM-5 Now Available

Heck Named Interim Director of Reese Library

More News and Events...



Robert B. Greenblatt, M.D. Library



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Health Sciences Campus
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706.721.3441

Reese Library



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706.737.1748

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References

Brucker, J. (2010). Playing with a bad deck: The caveats of card sorting as a web site redesign tool. *Journal of Hospital Librarianship*, 10, 41-53.

Cobus, L., Dent, V., & Ondrusek, A. (2005). How Twenty-Eight Users Helped Redesign an Academic Library Web Site. *Reference & User Services Quarterly*, 44(3), 232-246.

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Norlin, E., & Winters, C. (2002). *Usability testing for library websites: A hands-on guide*. Chicago: American Library Association

Smith, S. S., & American Library Association. (2010). *Web-based instruction: A guide for libraries* (3rd ed.). Chicago: American Library Association.

Tolliver, R. L., Carter, D. S., Chapman, S. E., Edwards, P. M., Fisher, J. E., Haines, A. L., & ... Price, R. M. (2005). Website redesign and testing with a usability consultant: lessons learned. *OCLC Systems & Services*, 21(3), 156-166.